WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
NEVADA

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE,
and
NEVADA DEPARTMENT of CONSERVATION and NATURAL RESOURCES
DIVISION of WATER RESOURCES

Data included in this report were obtained by the agencies named above in cooperation with the Federal, State and private organizations listed on the last page of this report.

AS OF
JAN. 1, 1963

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Water Supply Forecasting Unit, Soil Conservation Service, P.O. Box 4170, Portland 8, Oregon.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
WESTERN UNITED STATES	MONTHLY (FEB.-MAY)	PORTLAND, OREGON	ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MAR.-MAY)	PALMER, ALASKA	ALASKA S.C.D.
ARIZONA	SEMI-MONTHLY (JAN.15 - APR.1)	PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO	MONTHLY (FEB.-MAY)	FORT COLLINS, COLORADO	COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO	MONTHLY (JAN.-JUNE)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
MONTANA	MONTHLY (JAN.-JUNE)	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
NEVADA	MONTHLY (JAN.-MAY)	RENO, NEVADA	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JAN.-JUNE)	PORTLAND, OREGON	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH	MONTHLY (JAN.-JUNE)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER
WASHINGTON	MONTHLY (FEB.-JUNE)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB.-JUNE)	CASPER, WYOMING	WYOMING STATE ENGINEER

PUBLISHED BY OTHER AGENCIES

REPORTS	ISSUED	AGENCY
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	WATER RIGHTS BR., DEPT. OF LANDS, FORESTS AND NATURAL RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIF. DEPT. OF WATER RESOURCES, P.O. BOX 388, SACRAMENTO, CALIF.

USDA SCS PORTLAND OREG. 962

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for
NEVADA

Report prepared by

MANES BARTON

and

ROY E. MALSOR, JR.

SOIL CONSERVATION SERVICE
1479 SOUTH WELLS AVENUE
RENO, NEVADA

JANUARY 8, 1963

Issued by

CHARLES W. CLEARY, JR.

STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
RENO, NEVADA

HUGH A. SHAMBERGER

DIRECTOR
DEPARTMENT OF CONSERVATION AND
NATURAL RESOURCES
CARSON CITY, NEVADA

USDA-SCS-PORTLAND, OREG 1962

INDEX TO NEVADA SNOW COURSES
(By Basins)

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
	SNAKE RIVER BASIN				
	SNAKE RIVER				
15H1MA	BEAR CREEK	31	46N	58E	7800
15G4M*	BIG BENO	30	45N	56E	6700
15H2	FOX CREEK	33	46N	58E	6800
15H13	GOAT CREEK	31	46N	60E	8800
15H5*	GOLO CREEK	31	45N	56E	6600
15H15A	HUMMINGBIRO SPRINGS	6	45N	60E	8945
14H1	JAKES CREEK	6	42N	62E	7000
15H14	POLE CREEK RANGER STATION	13	46N	59E	8330
15H18a	RED POINT	15	47N	61E	7940
15H3A	76 CREEK	6	44N	58E	7100
	OWYHEE RIVER				
15H4M	BIG BENO	30	45N	56E	6700
17H2*	BUCKSKIN, LOWER	25	45N	39E	6700
17H1*	BUCKSKIN, UPPER	11	45N	39E	7200
15H7*	FRY CANYON	31	43N	54E	6700
15H5	GOLO CREEK	31	45N	56E	6600
17H4*	GRANITE PEAK	22	44N	39E	7800
16H1M	JACK CREEK, LOWER	18	42N	53E	6800
16H2	JACK CREEK, UPPER	9	42N	53E	7250
16H4	JACKS PEAK	28	42N	53E	8420
16H5	LAUREL DRAW	20	45N	53E	6700
17G4a	LOUSE CANYON (OREG.)	27	40S	44E	6440
17H3*	MARTIN CREEK	18	44N	40E	6700
15H6M*	RODEO FLAT	36	43N	53E	6800
15H9M	TAYLOR CANYON	35	39N	53E	6200
15H8*	TREMEWAN RANCH	9	39N	55E	5700
	INTERIOR				
	UPPER HUMBOLOT RIVER				
15H1MA*	BEAR CREEK	31	46N	58E	7800
15H4M*	BIG BENO	30	45N	56E	6700
15J12	CORRAL CANYON	27	28N	57E	8500
15J1	DORSEY BASIN	28	35N	60E	8100
15J3	DRY CREEK	5	34N	60E	6500
15H2*	FOX CREEK	33	46N	58E	6800
15H7	FRY CANYON	31	43N	54E	6700
15H5*	GOLD CREEK	31	45N	56E	6600
15J9	GREEN MOUNTAIN	23	29N	57E	8000
15J10	HARRISON PASS #1	9	28N	57E	6600
15J11	HARRISON PASS #2	16	28N	57E	7400
16H1M*	JACK CREEK, LOWER	18	42N	53E	6800
16H2*	JACK CREEK, UPPER	9	42N	53E	7250
16H4*	JACKS PEAK	28	42N	53E	8420
15J4	LAMOILLE #1	15	32N	58E	7100
15J5	LAMOILLE #2	14	32N	58E	7300
15J6	LAMOILLE #3	24	32N	58E	7700
15J7	LAMOILLE #4	19	32N	59E	8000
15J8	LAMOILLE #5	31	32N	59E	8700
15H6M	RODEO FLAT	36	43N	53E	6800
15J2	RYAN RANCH	1	34N	59E	5800
15H3A*	76 CREEK	6	44N	58E	7100
15H9M*	TAYLOR CANYON	35	39N	53E	6200
15H8	TREMEWAN RANCH	9	39N	55E	5700
15H10	TROUT CREEK, LOWER	28	37N	61E	6900
15H11	TROUT CREEK, UPPER	4	36N	61E	8500
	LOWER HUMBOLOT RIVER				
17K1	BIG CREEK CAMP GROUND	10	17N	43E	6600
17K2	BIG CREEK MINE	23	17N	43E	7600
17K3	BIG CREEK, UPPER	26	17N	43E	8000
17H2	BUCKSKIN, LOWER	25	45N	39E	6700
17H1	BUCKSKIN, UPPER	11	45N	39E	7200
17J2	GOLCONDA #2	22	35N	39E	6000
17H4	GRANITE PEAK	22	44N	39E	7800
17H5	LAMANCE CREEK	13	42N	38E	6000
17L1	LOWER CORRAL	12	11N	40E	7500
17H3	MARTIN CREEK	18	44N	40E	6700
16H3	MIDAS	18	39N	46E	7200
17L2	UPPER CORRAL	20	11N	41E	8500
	EASTERN NEVADA				
14L1	BAKER #1	29	13N	69E	7950
14L2	BAKER #2	30	13N	69E	8950
14L3	BAKER #3	25	13N	68E	9250
14K2	BERRY CREEK	26	17N	65E	9100
14K1	BIRD CREEK	34	19N	65E	7500
15J13	CAVE CREEK	25	27N	57E	7500
15J14	HAGER CANYON	34	27N	57E	8000
15J15	HOLE-IN-MTN.	6	35N	61E	7900
14K8	KALAMAZOO CREEK	34	20N	65E	7400
14K3	MURRAY SUMMIT	25	16N	62E	7250
15K1	ROBINSON SUMMIT	34	18N	61E	7600
14K7	SILVER CREEK #2	30	16N	69E	8000
14K5	WARD MOUNTAIN #2	25	15N	62E	7875
15L1*	WHITE RIVER #1	31	13N	59E	7400
	CENTRAL GREAT BASIN				
18M2	CAMPITO MTN (CAL.)	19	5S	35E	10200
15N2	CLARK CANYON	8	19S	56E	9000
18G6a*	DENIO CREEK (OREG.)	14	41S	34E	6000
18M1	MONTGOMERY PASS	4	1N	33E	7100
18M3a	PINCHOT CREEK	28	1N	33E	9300
18M4a	PIUTE PASS (CAL.)	33	4S	33E	11700
15N1	TROUGH SPRINGS	23	18S	55E	8500
	NORTHERN GREAT BASIN				
19H1	BALD MOUNTAIN	17	45N	21E	6720
20H5	BARBER CREEK	23	39N	16E	6500
20H6	CEDAR PASS	12	43N	14E	7100
18H1	DISASTER PEAK	8	47N	34E	6500
20H3a	DISMAL SWAMP (CAL.)	31	48N	22E	7000
20H7	EAGLE PEAK	35	40N	15E	8300
19H3	49-MTN	7	42N	19E	6000
19H2	HAYS CANYON	1	39N	18E	6400
18H2	LEONARD CREEK	13	42N	28E	5900
19H4a	LITTLE BALLY MTN	8	45N	19E	6000
17G5a	OREGON CANYON (OREG.)	9	40S	40E	7240
17H6a	QUINN RIDGE	9	47N	41E	6300
20H4	RESERVATION CREEK	12	46N	15E	5900
18G5a*	TROUT CREEK (OREG.)	10	41S	38E	7800
	LAKE TAHOE				
19L14	DAGGETTS PASS	19	13N	19E	7350
20L5	ECHO SUMMIT (CAL.)	6	11N	18E	7500
19L2	FREEL BENCH (CAL.)	36	12N	18E	7300
19K6	GLENBROOK #2	13	14N	18E	6900
19L3M	HAGANS MEADOW (CAL.)	36	12N	18E	8000
20L4	LAKE LUCILLE (CAL.)	28	12N	17E	8400
19K4M	MARLETTE LAKE	13	15N	18E	8000
19K2*	MT. ROSE	7	17N	19E	9000
20L3	RICHARDSONS #2 (CAL.)	6	12N	18E	6500
20L1	RUBICON #1 (CAL.)	6	13N	17E	8100
20L2	RUBICON #2 (CAL.)	6	13N	17E	7500
20K16	TAHOE CITY (CAL.)	6	15N	17E	6250
19L1	UPPER TRUCKEE (CAL.)	21	12N	18E	6400
20K17M*	WARD CREEK (CAL.)	21	15N	16E	7000
	TRUCKEE RIVER				
20K14	BOCA #2 (CAL.)	28	18N	17E	5900
20K11	DONNER LAKE #1 (CAL.)	14	17N	15E	5950
20K21	DONNER PARK #2 (CAL.)	3	16N	16E	6000
20K10*	DONNER SUMMIT (CAL.)	25	17N	14E	6900
20K7*	FORDYCE LAKE (CAL.)	34	18N	13E	6500
20K8*	FURNACE FLAT (CAL.)	10	17N	13E	6600
20K4M	INDEPENDENCE CAMP (CAL.)	34	19N	15E	7000
20K3	INDEPENDENCE CREEK (CAL.)	14	19N	15E	6500
20K5	INDEPENDENCE LAKE (CAL.)	9	18N	15E	8450
19K3	LITTLE VALLEY	17	16N	19E	6300
19K2	MT. ROSE	7	17N	19E	9000
20K6	SAGE HEN CREEK (CAL.)	7	18N	16E	6500
20K19	SOUAW VALLEY #2 (CAL.)	6	15N	16E	7500
20K16*	TAHOE CITY (CAL.)	6	15N	17E	6250
20K13M	TRUCKEE #2 (CAL.)	22	17N	16E	6400
20K17M*	WARD CREEK (CAL.)	21	15N	16E	7000
20K2	WEBBER LAKE (CAL.)	20	19N	14E	7000
20K1*	WEBBER PEAK (CAL.)	30	19N	14E	8000
	CARSON RIVER				
19L5	BLUE LAKES (CAL.)	30	9N	19E	8000
19L4	CARSON PASS, UPPER (CAL.)	22	10N	18E	8600
19K5	CLEAR CREEK	6	14N	19E	7300
19L6A	POISON FLAT (CAL.)	25	8N	21E	7900
19L16a	UPPER FISH VALLEY (CAL.)	18	7N	22E	8050
	WALKER RIVER				
19L11	BUCKEYE FORKS (CAL.)	20	4N	23E	8500
19L10	BUCKEYE ROUGHS (CAL.)	15	4N	23E	7900
19L12A	CENTER MOUNTAIN (CAL.)	4	3N	23E	9400
18L1	LAPON MEADOW	36	8N	28E	9000
19L8	LEAVITT MEADOWS (CAL.)	4	5N	22E	7200
18L2	MT. GRANT	23	8N	28E	9000
19L7M	SONORA PASS (CAL.)	1	5N	21E	8800
19M1*	TIOGA PASS (CAL.)	30	1N	25E	9900
19L13M	VIRGINA LAKES (CAL.)	5	2N	25E	9500
19L9	WILLOW FLAT (CAL.)	21	5N	23E	8250
	COLORADO				
	LOWER COLORADO RIVER				
15N5	KYLE CANYON	26	19S	56E	8200
15N4	LEE CANYON #1	10	19S	56E	8300
15N3	LEE CANYON #2	9	19S	56E	9000
14M1	MATHEW CANYON	11	5S	70E	6000
14M2	PINE CANYON	11	6S	69E	6200
15N7	RAINBOW CANYON #2	6	20S	57E	8100
15L1	WHITE RIVER #1	31	13N	59E	7400

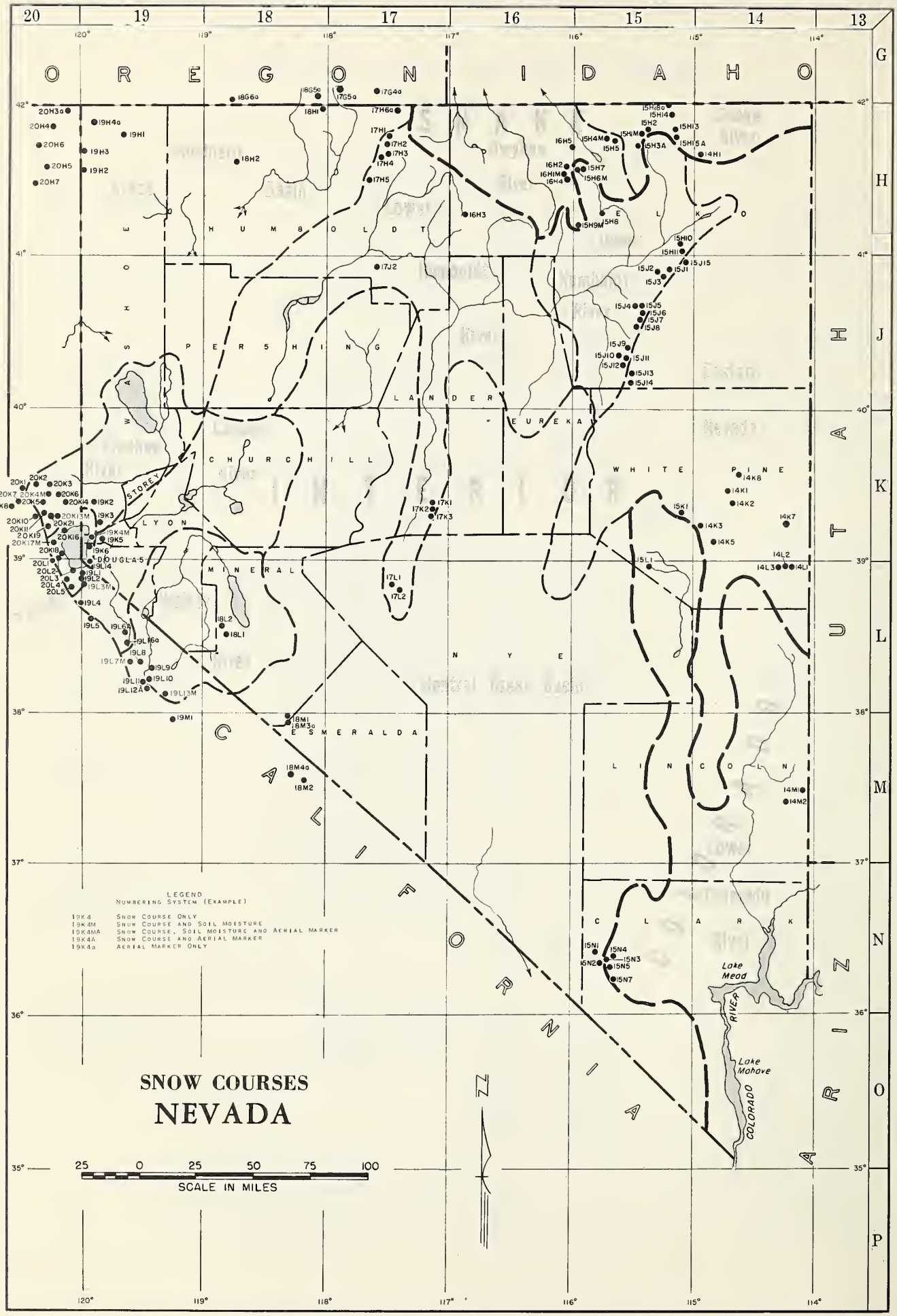
LEGEND

NUMBERING SYSTEM (EXAMPLE)

19K4	SNOW COURSE ONLY
19K4M	SNOW COURSE AND SOIL MOISTURE
19K4MA	SNOW COURSE, SOIL MOISTURE AND AERIAL MARKER
19K4A	SNOW COURSE AND AERIAL MARKER
19K4a	AERIAL MARKER ONLY

* LOCATED ON ADJACENT WATERSHED

USDA SCS PORTLAND OREG 1962 M-1824



U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

7-0-14858-L

WATER SUPPLY OUTLOOK
FOR NEVADA

January 1, 1963

* *
* Nevada's spring-summer water supply outlook rates only fair as *
* of this early winter date. In aggregate Nevada's principal *
* reservoirs, exclusive of Lake Tahoe, hold 92 percent of their *
* January 1 average and are 50 percent of capacity. Snow survey *
* measurements at the few key snow courses in Sierra and Humboldt- *
* Owyhee-Snake Watersheds indicate a below normal January 1 snow- *
* pack. The east slope Sierra courses are 10-20 percent of the *
* January 1 average and the Humboldt-Owyhee-Snake are 0 percent, *
* 0 percent, 38 percent of average respectively. *
* *

Nevada streamflow for the coming irrigation season will be below normal unless mountain snowpack improves appreciably during the next few months. Should this below normal snowpack trend continue, water users served in part from reservoir stored water will benefit from the much improved reservoir storage water holdover.

Lake Tahoe storage has improved since October 1 but is only 22 percent of average and 13 percent of capacity. On December 28, 1962 its elevation was 6223.71 feet which is equivalent to 96,000 acre feet. The natural rim outlet elevation of Lake Tahoe is 6223.00 feet above sea level. Storage in other Nevada reservoirs as percent of the January 1 average is as follows: Wildhorse - 154%; Rye Patch - 79%; Boca - 80%; Lahontan - 96%; Topaz - 87% and Bridgeport - 96%.

Mountain snowpack in the Sierras is below normal with a range of about 10-20 percent of the January 1 average. Recent storms in the Sierra have done little to improve the snowpack. Normally by January 1 40-50 percent of the snowpack is on the ground; this year there is only about 10-15 percent on the ground.

Snow conditions in northeastern Nevada are poor. There is little snow below 7500 feet. Even above 7500 feet the snowpack is below normal at 38 percent of the January 1 average and 41 percent of last January 1.

Mountain soil moisture conditions are only fair. Snowmelt water will be required to bring these soils to full moisture capacity and this in turn will reduce snowmelt runoff.

A more extensive snow survey network will be measured on February 1, 1963 at which time seasonal streamflow forecasts will be issued for a few representative streams.

NEVADA

STATUS OF RESERVOIR STORAGE

January 1, 1963

Basin and Stream	Reservoir	Usable Capacity (1000 AF)	Usable Storage 1000's A. F. 1963	1962	1961	January 1 15-Yr. Av. 1943-57	Change since Sept. 30, 1962 1000's A. F.
Owyhee	Wild Horse	33	17	8	7	11	- 2
Lower Humboldt	Rye Patch	179	74	5	7	94	- 5
Colorado	Mohave	1,810	1,699	1,681	1,620	1,506*	-350
Colorado	Mead	27,217	22,990	18,023	19,294	18,140	-634
Tahoe	Tahoe	732	96	0	106	434	+ 15
Truckee	Boca	41	12	1	9	15	- 4
Carson	Lahontan	286	169	26	58	176	+ 53
West Walker	Topaz	59	26	7	6	30	+ 9
East Walker	Bridgeport	42	25	10	7	26	+ 8

* Storage began in 1950

TOTAL RESERVOIR STORAGE
Developed from Wild Horse, Rye Patch, Tahoe, Boca, Lahontan, Topaz and Bridgeport Reservoirs in 1000's Acre Feet

MONTH	1958-59	1959-60	1960-61	1961-62	1962-63	AVERAGE 1943-57
October 1	985	489	263	65	345	732
January 1	890	367	206	57	419	787
February 1	947	398	218	73		842
March 1	1,038	494	254	210		877
April 1	1,066	592	285	318		923
May 1	1,036	632	300	499		971
TOTAL USABLE CAPACITY	1,372					

January 1, 1963

NEVADA SNOW SURVEYS

Drainage Basin and Snow Course	Elev.	SNOW COVER MEASUREMENTS 1963 Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Past Record Water Content 1962	1961	15-Yr. 1943-57 Average Jan. 1	Apr. 1
SNAKE RIVER								
Bear Creek	8145	12/31	12	2.9a	8.1a	6.2	7.1*	21.5*
Hummingbird Springs	8870	12/31	12	2.9a	8.4a	3.5	7.8*	22.8*
Pole Creek	8330	12/28	14	3.4	7.6	6.6	6.7*	20.5*
Red Point	7940	12/31	4	1.0a	3.1a	3.7	-	-
OWYHEE RIVER								
Big Bend	6700	12/27	T	T	3.3	2.5	3.3*	10.5
Gold Creek	6600	12/27	T	T	2.5	1.2	1.9*	6.0
Jack Creek, Lower	6800	12/27	T	T	1.8	1.5	1.1*	2.5
Jack Creek, Upper	7250	12/27	T	T	4.8	3.0	3.5*	10.9
Taylor Canyon	6200	12/27	0	0.0	1.8	0.8	1.8*	3.5
HUMBOLDT RIVER								
Fry Canyon	6700	12/27	T	T	3.5	2.3	3.1*	9.2
Rodeo Flat	6800	12/27	T	T	2.5	2.4	3.3*	8.7
Tremewan Ranch	5700	12/27	0	0.0	T	T	0.7*	0.8
LAKE TAHOE-TRUCKEE RIVER								
Freel Bench	7300	1/3	0	0.0	2.8	-	-	11.4*
Glenbrook #2	6900	1/2	0	0.0	2.2	4.0	-	14.5
Hagans Meadows	8000	1/3	T	T	4.1	-	-	19.0*
Richardsons #2	6500	1/2	0	0.0	4.4	-	-	17.8*
Upper Truckee	6400	1/3	0	0.0	2.8	-	-	7.4*
Ward Creek	7000	1/4	11	4.0	10.0	-	-	48.2*
CARSON-WALKER RIVERS								
Sonora Pass	8800	12/28	8	1.9	4.6	8.4	-	24.1
Virginia Lakes	9500	12/28	5	1.0	3.7	-	-	18.0*

* Adjusted 15 year average

a Aerial snow depth gage reading; water content estimated.

Agencies Cooperating in Collecting Data Contained in this Bulletin

FEDERAL

- Agricultural Research Service
- Army
- Bureau of Reclamation
- Fish and Wildlife Service
- Forest Service
- Geological Survey
- Navy
- Soil Conservation Service
- Weather Bureau

STATE

- California Cooperative Snow Surveys
- California Department of Water Resources
- Colorado River Commission of Nevada
- Nevada Association of Soil Conservation Districts
- Nevada Cooperative Snow Surveys
- Nevada Department of Conservation & Natural Resources
  - Division of Water Resources
  - Nevada State Forester-Firewarden
- Oregon Cooperative Snow Surveys
- University of Nevada
- White Mountain Research Station, Univ. of California

PRIVATE

- Amalgamated Sugar Company
- Kennecott Copper Corporation
- Nevada Irrigation District
- Owyhee Project North Board of Control
- Owyhee Project South Board of Control
- Pacific Gas & Electric Company
- Pershing County Water Conservation District
- Sierra Pacific Power Company
- Squaw Valley Development Company
- Truckee-Carson Irrigation District
- Virginia City Water Company
- Walker River Irrigation District
- Washoe County Water Conservation District

Other organizations and individuals furnish valuable information for the snow survey reports. Their Cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
1479 WELLS AVENUE
RENO, NEVADA

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FEDERAL - STATE - PRIVATE

COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"